#3

IMPORTANT FOREST INSECT OUTBREAKS
INTERMOUNTAIN REGION
1957

INSECT: Spruce Budworm (Choristoneura fumiferana (Clem.))

HOST: Douglas-fir, True Firs and Engelmann Spruce

The spruce budworm infestations in southern Idaho became quite noticeable and severe during 1952. Since that time their extent and severity have increased. Starting in 1955 spray programs were organized and carried on. To date more than 2 million acres have been sprayed. Aerial surveys during 1957 supplemented by ground examinations revealed approximately 512,300 acres of infestation on the Boise, Challis, Payette, Sawtooth, and Salmon National Forests. A few areas of reinfestation or buildup in previously sprayed areas were noted: 17,600 acres on the Boise, and 84,100 acres on the Salmon.

The budworm has been a serious problem in northern Idaho and Montana for nearly 10 years. Spray projects since 1953 have treated more than 2 million acres. The 1957 aerial and ground surveys show approximately 2,846,000 acres of Douglas-fir still infested, 90 percent of which is in Montana with the remainder in the Craig mountain area in northern Idaho. This total of uncontrolled infested acreage represents an increase of about 100,000 acres.

INSECT: Spruce Mite (Oligonychus ununguis (Jac.))

HOST: Douglas-fir forests

This year saw a new situation develop. Spider mite damage by Oligonychus ununguis (Jac.) appeared in Montana and southern Idaho in fir stands sprayed during 1956 to control budworm. A few lesser infestations have been noted outside spray areas but heavy populations and damage coincide with previous spray areas. Damage appears as discolored foliage throughout the branches giving entire stands a dirty yellowish-brown appearance. In southern Idaho some 22,300 acres of fir have been heavily damaged. Some light infestations have appeared outside sprayed areas but the severe damage appears to be related to project areas.

The mite problem in Region 1 is much more severe than in southern Idaho. In 1956 a total of 885,000 acres was sprayed. It now appears that approximately 790,000 of the 885,000 acres has suffered mite damage.

INSECT: Mountain Pine Beetle (Dendroctonus monticolae Hopk.)

HOST: Western White Pine, Lodgepole Pine, and Ponderosa Pine

Mountain pine beetle activity in the lodgepole forests of Forest Service Region 4 is on the increase. Surveys show infestation centers on Grand Teton National Park, Teton, Sawtooth, Wasatch, and Ashley National Forests, and on private land near the upper end of the Targhee National Forest. The size of the infested centers vary from 50 trees in smaller infestations to over 120,000 infested trees on the Wasatch. The potential that exists in these "hot spots" is disturbing. If left unchecked they might develop into larger outbreaks if the tendency noted last year and this season continues.

The mountain pine beetle is also active in a second-growth stand of ponderosa pine in the Crystal Bay area of Lake Tahoe, Nevada. This serious outbreak covering about 4,000 acres of private land represents a threat to the adjoining high value recreational and summer home areas around the north end of the lake.

Mountain pine beetle infestations in lodgepole pine timber appears to be at a low level throughout Region 1. Two infestations are reported active at this time. On privately owned land near Soldiers Reservoir south of Lewiston, Idaho, an infestation which is believed to have developed in water-killed lodgepole pine several years ago is still highly epidemic. In Glacier National Park an infestation of epidemic proportions continues in a small area of mature lodgepole pine immediately north of Kintla Lake. The mountain pine beetle is active to a limited extent in white pine stands on the Clearwater National Forest in Idaho. Aside from increases in activity in three areas in the forest, the situation has not changed materially for several years. The mountain pine beetle in ponderosa pine in Region 1 has killed only scattered single mature trees.

INSECT: Douglas-fir Beetle (Dendroctonus pseudotsugae Hopk.)

HOST: Douglas-fir

In Region 4 the Douglas-fir beetle has continued to show a downward trend with one exception. On the Dixie National Forest and adjoining land the species continues to cause heavy damage. The fir type occurs in patches with practically all stands heavily infested. There are many pockets 300 acres or larger where almost total kill has occurred. Some salvage is under way. Only one infestation of Douglas-fir beetle of consequence was reported during 1957 in Region 1. Approximately 25 percent of the mature overstory trees on 1,000 acres in the Yellowstone River Canyon in Yellowstone National Park has been killed by the beetle during the past three years. These trees were previously heavily defoliated by the spruce budworm in 1953-1955.

INSECT: Engelmann Spruce Beetle (Dendroctonus engelmanni Hopk.)

HOST: Engelmann Spruce

The outbreak of Engelmann spruce beetle on the Bridger National Forest discovered in 1955 is still aggressive. The program of logging and use of trap logs continues as planned. Within the main area around Gypsum Creek there are approximately 37,000 infested trees and stumps on 24,000 gross acres. As much as 33 percent of the spruce has been killed in some unit areas. It is the only serious Engelmann spruce beetle situation known in Region 4 at this time. Remnants of the 1952-1956 epidemic of the Engelmann spruce beetle remain active in some stands of pure spruce where logging is being conducted for control purposes. However, in most instances where stands are composed of pure mature spruce and where they have been logged for beetle control the infestation has died out.

INSECT: Douglas-fir Tussock Moth (Hemerocampa pseudotsugata McD.)

HOST: Douglas-fir and True Firs

During 1951 the Douglas-fir tussock moth reached outbreak proportions in Owyhee County in Idaho. At that time about 10,000 acres of second-growth Douglas-fir were heavily infested. The following year the outbreak subsided with limited tree mortality and some top killing. The fir is growing on an excellent site and the prospects are good for future timber production.

In 1956 it was reported that the insect was again active in the same area. Surveys revealed considerable defoliation in parts of the infestation. There was evidence of considerable parasitism. During the present season defoliation again occurred ranging from light to heavy. In areas classified as heavy the greatest defoliation took place in the upper crowns and top-killing could result where tops were denuded. A gross acreage of 26,000 acres was mapped from the air. No active infestations of the Douglas-fir tussock moth were reported in Region 1 in 1957.

INSECT: Larch Casebearer (Coleophora laricella (Hbn))

HOST: Western Larch

The larch casebearer, a European insect widely distributed in the eastern United States, made its appearance in northern Idaho for the first time in 1957. No doubt it had been present for some time before being noted. An infestation of approximately 15,000 acres near St. Maries, Idaho, was reported during the year in young larch stands. The feeding produced severe defoliation on the infested trees and a heavy population is present going into hibernation on twigs.

INSECT: Black Hills Beetle (Dendroctonus ponderosae Hopk.)

HOST: Ponderosa Pine

The present outbreak of Black Hills beetle on the Dixie National Forest and Bryce Canyon National Park is now in its eighth year. By a combination of logging and direct chemical treatment populations of beetles have been reduced in many centers. Unfortunately conditions are such that epidemic centers continue to develop in new areas making it necessary to continue control. The ponderosa forests in the area have suffered from deficient rainfall for the past seven years. This year rainfall has been well distributed throughout the season and in amounts that should break the drought condition. We have assumed that deficient rainfall has contributed to stand susceptibility.

INSECT: Fir Needle Miner (Epinotia meritana Hein.)

HOST: White Fir

The outbreak of fir needle miner in the Bryce Canyon National Park area is now reduced to an endemic level. Partially responsible for the decrease was the aerial test spraying of about 4,000 acres with an oil solution of malathion. Parasites also contributed to the over-all reduction of the needle miner population. Infestations on adjoining Dixie National Forest land also show a downward trend. Approximately 10,000 acres of white fir were heavily defoliated during the course of this epidemic in the Park and on the Forest. Some tree killing occurred, principally understory trees. The stand is now in a weakened condition and therefore more susceptible to fir engraver beetles, primarily Scolytus ventralis.

INSECT: Alpine Fir Engravers (Scolytus and/or Dryocoetes)

HOST: True firs

Generally throughout Region 4 the damage caused by the fir engraver beetle (Scolytus ventralis Leo.) and the western balsam bark beetle (Dryocoetes confusus) Sw. seems to be decreasing. Nevertheless considerable tree killing is taking place in widely scattered areas throughout the region. In southern Utah on and near Bryce Canyon National Park there has been a sharp increase of fir engraver beetle activity in the white fir stands weakened by the fir needle miner (Epinotia meritana Hein.).

INSECT: Spruce Mealybug (Puto sp.)

HOST: Engelmann Spruce

About 60,000 acres of Engelmann spruce in southern Utah in two centers on the Dixie and Fishlake National Forests are heavily infested with a mealybug. From present knowledge it occurs only in this spruce area. The

mealybug infests all ages from reproduction to mature trees. Considerable damage, in the form of tree deformity and reduced vigor, is present in areas where the pest has been active for several years. The extent of tree killing has not been determined but probably occurs only after continued feeding and gradual decline in vigor. No control methods are known.

INSECT: Blackheaded Budworm (Acleris variana (Fern.))

HOST: Western Hemlock and Alpine Fir

High endemic populations of the black-headed budworm are reported throughout many Douglas-fir stands in Montana in conjunction with spruce budworm populations. This is particularly noticeable east of the Continental Divide. Epidemic populations of black-headed budworm caused heavy defoliation in western hemlock stands in scattered locations in the Kootenai National Forest and in Glacier National Park in Montana, and in the Kaniksu in Idaho. Aerial surveys showed that these scattered infestations total approximately 32,000 acres on which hemlock damage is highly visible. Ground surveys have also recorded active infestations in grand fir stands in the Pend Oreille River drainages in Newport, Washington.

INSECT: Larch Defoliators

HOST: Western Larch

In 1955 and 1956 considerable defoliation of western larch in Montana and northern Idaho was reported. There was some confusion because of the presence of several species in the infestations. This season observations have clarified the situation. The larch budmoth, Zeiraphera griseana (Hubner) was first observed in 1955. During the next years the aggregate acreage of visible defoliation increased from 33,000 to an estimated 250,000 acres in scattered centers. A larch looper, Semiothisa sexmaculata (Pack.) developed from 1955 to 1957 into the most widespread defoliator of larch in the northern Rookies, although there are no records of its presence prior to 1955. It was found in every larch stand in Montana and Idaho where examinations were made but always at lower elevations than the stands infested by budmoth. With few exceptions, looper populations were relatively light and the injury was negligible. Feeding damage became visible in September. During the past two years populations of the two-lined larch sawfly (Anoplonyx occidens Ross) and occasionally the western larch sawfly (A. laricivorus Roh. and Midd.) were observed in association with populations of the above looper throughout the range of western larch in Montana and northern Idaho. The visible damage to the foliage as a result of their feeding appeared slight.

INSECT: Alpine Fir Defoliator

HOST: True firs

For the second year heavy defoliation of alpine fir has occurred in areas in southern Idaho sprayed for budworm control the previous year. This year it was found outside sprayed areas. Approximately 153,000 acres are affected, 103,700 of which are on the Boise National Forest. Since the survey was based on damage the insect was not available for collection and identification at the time survey crews were in the area. However, a few collections of insects made during research studies may include the defoliator but contents of the samples have not yet been identified.

INSECT: Western Pine Beetle (Dendroctonus brevicomis Leo.)

HOST: Ponderosa Pine

Mortality of ponderosa pine caused by the western pine beetle remains at a low endemic level throughout Regions 1 and 4.

INSECT: (Ips confusus (LeC.))

HOST: Pinyon pine

Increased activity by Ips confusus (LeC.) in areas in southern Utah and western Nevada have been noted on pinyon pine. In centers of infestation groups as large as 3,000 trees have been killed.

INSECT: Douglas-fir Sawfly (Neodiprion abietis complex)

HOST: Douglas-fir

Surveys show that sawflies are still active in the Craters of the Moon National Monument. The infestation is not particularly serious but the limited fir in the area is considered of aesthetic value. Sawflies in Douglas-fir have been observed at endemic levels rather generally throughout southern Idaho.

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